



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

Cumberland County Commissioners)	
Cumberland County Jail)	
Cumberland County)	Departmental
Portland, Maine)	Findings of Fact and Order
A-552-71-G-R (SM))	Air Emission License

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

The Cumberland County Jail (CCJ) has applied to renew their Air Emission License, permitting the operation of emission sources associated with their correctional facility located on Ogdensburg Street in Portland.

B. Emission Equipment

CCJ is authorized to operate the following air emission units at the correctional facility:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Fuel Type, % Sulfur	Maximum Firing Rate	Stack #
Boiler #1	7.3	Natural Gas	7320 scf/hr	1
Boiler #2	7.3	Natural Gas	7320 scf/hr	1
Emerg. Generator	13.3	Diesel, 0.05%	95 gal/hr	2
Kitchen Boiler	1.2	Natural Gas	1200 scf/hr	1
Furnace *	0.8	Natural Gas	750 scf/hr	3

*CCJ operates one fuel burning unit which has a heat input capacity less than 1.0 MMBtu/hr and is therefore noted for inventory purposes only.

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17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
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C. Application Classification

The application for CCJ does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of current licensed emission units only and has been processed through Major and Minor Source Air Emission License Regulations, 06-096 CMR 115 (last amended December 24, 2005). With the fuel limit on the boilers and the operating hours restriction on the emergency generator, the facility is licensed below the major source thresholds and is considered a synthetic minor.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Definitions Regulation, 06-096 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boilers

Boilers #1, #2 and the Kitchen Boiler combust natural gas. The boilers have maximum capacities of 7.3, 7.3, and 1.2 MMBtu/hr, respectively. They are therefore not subject to EPA New Source Performance Standards 40 CFR 60 Subpart Dc, for boilers with heat inputs greater than or equal to 10.0 MMBtu/hr. The inherently low emissions generated by the combustion of natural gas and the boilers' small sizes eliminate the need for additional post combustion control.

BPT for the Boilers is the following:

1. The use of natural gas as fuel, limited to 100,000,000 cubic feet per year based on a 12-month rolling total.

2. The PM emissions limits are based on a BPT emission limit established for natural gas fired used of 0.05 lb/MMBtu. PM₁₀ emission limits are based on the PM limits.
3. SO₂, NO_x, CO, and VOC emission limits for Boilers #1 and #2 based on manufacturer's data for the boilers when fired with natural gas. These limits also meet lb/MMBtu particulate restrictions from 06-096 CMR 103.
4. SO₂, NO_x, CO, and VOC emission limits for the Kitchen Boiler are based on AP-42 data dated 7/98 for air emissions from natural gas combustion.
5. Visible emissions from each of the boilers shall not exceed 10% opacity on a 6 minute block average, except for no more than one 6-minute block average in a 3-hour period.

C. Back-up Diesel Generator

CCJ operates a back-up diesel generator, a Caterpillar 4-cycle 1500 kW diesel generator to back-up the utility line power. CCJ shall limit operation of this generator to 100 hours per year.

The back-up generator is only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Back-up generators are not to be used for prime power when reliable offsite power is available.

A summary of the BPT analysis for the generator (13.3 MMBtu/hr) is the following:

1. The back-up generator shall fire only diesel fuel with a maximum sulfur content not to exceed 0.05% by weight.
2. The back-up generator shall be limited to 100 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.
3. 06-096 CMR 106 regulates fuel sulfur content, however in this case a BPT analysis for SO₂ determined a more stringent limit of 0.05% was appropriate and shall be used.
4. 06-096 CMR 103 regulates PM emission limits. The PM₁₀ limits are derived from the PM limits.
5. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
6. Visible emissions from the back-up generator shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.

D. Facility Emissions and Fuel Use Caps

The facility shall restrict fuel use to 100,000,000 cubic feet of natural gas per year. Annual Emissions are calculated based on this fuel use restriction and 100 hours/year of operation of the Emergency Generator firing 0.05% sulfur diesel fuel.

Total Allowable Annual Emissions for the Facility (used to calculate the annual license fee)

Pollutant	Natural Gas fired Boilers (TPY)	Emergency Generator (TPY)	Total Tons/year
PM	2.6	0.1	2.7
PM ₁₀	2.6	0.1	2.7
SO ₂	0.1	0.1	0.2
NO _x	5.0	2.1	7.1
CO	4.2	0.6	4.8
VOC	0.3	0.1	0.4

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling and monitoring are not required for a renewal if the total emissions of any pollutant released do not exceed the following:

<u>Pollutant</u>	<u>Tons/Year</u>
PM	25
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on the above total facility emissions, CCJ is below the emissions level required for modeling and monitoring.

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ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-552-71-G-R subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any

period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]

- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or

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2. pursuant to any other requirement of this license to perform stack testing.
 - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. submit a written report to the Department within thirty (30) days from date of test completion.
- [06-096 CMR 115]

- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
- B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
- C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 115]

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]

- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee

shall report all excess emissions in the units of the applicable emission limitation.
[06-096 CMR 115]

- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

- (16) Boiler #1, Boiler #2 and the Kitchen Boiler

- (A) Boiler #1, Boiler #2 and the Kitchen Boiler shall fire natural gas. CCI shall not exceed 100,000,000 standard cubic feet of natural gas fired in the boilers per year, based on a twelve month rolling total. Compliance shall be demonstrated by fuel purchase receipts or fuel use receipts.
- (B) Boiler #1, Boiler #2 and the Kitchen Boiler shall not exceed the following limits:

Boiler Emission Limits

	Boiler #1		Boiler #2		Kitchen Boiler
	lb/MMBtu	lb/hr	lb/MMBtu	lb/hr	lb/hr
PM	0.05	0.4	0.05	0.4	0.1
PM₁₀	--	0.4	--	0.4	0.1
SO₂	--	0.1	--	0.1	0.1
NO_x	--	0.7	--	0.7	0.2
CO	--	0.6	--	0.6	0.1
VOC	--	0.1	--	0.1	0.1

Compliance shall be demonstrated on request of the Department through stack testing in accordance with the appropriate method found in 40 CFR Part 60, Appendix A.

- (C) Visible emissions from the combined stack for Boilers #1, #2 and the Kitchen Boiler (stacks 1 and 2) shall each not exceed 10% opacity on a 6 minute block average, except for no more than one 6-minute block average in a 3-hour period.
[06-096 CMR 115, BPT]

(17) Emergency Generator

- (A) The Emergency Generator shall fire diesel fuel with a maximum sulfur content of 0.05% by weight. Compliance shall be demonstrated by fuel purchase receipts showing the sulfur content of the fuel.
- (B) The Emergency Generator shall not exceed 100 hours of operation per year on a 12 month rolling total. Compliance shall be demonstrated through an hour meter operated and maintained on the emergency generator.
- (C) A log shall be kept documenting the date, time and reason of operation each time the Emergency Generator is operated.
- (D) Emissions from the Emergency Generator shall not exceed the following:

Emergency Generator Emission Limits

	lb/MMBtu	lb/hr
PM	0.12	1.6
PM₁₀	--	1.6
SO₂	--	0.7
NO_x	--	42.6
CO	--	11.3
VOC	--	2.0

Compliance shall be demonstrated on request of the Department through stack testing in accordance with the appropriate method found in 40 CFR Part 60, Appendix A.

- (E) Visible emissions from the Emergency Generator shall not exceed 20% opacity on a 6-minute block average basis, except for no more than two 6-minute block averages in a 3-hour period.

[06-096 CMR 115, BPT]

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- (18) CCJ shall record maintenance to the Boilers and the Emergency Generator to show that the manufacturer's recommended preventative maintenance schedules are being followed. [06-096 CMR 115, BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS 29th DAY OF October 2008.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Little
DAVID P. LITTELL, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: February 14, 2008

Date of application acceptance: March 7, 2008

Date filed with the Board of Environmental Protection: _____

This Order prepared by Edwin Cousins, Bureau of Air Quality.

